

Notice of Allowability

Application No.

10/607,206

Examiner

(Nancy) Thanh-Nhan P. Nguyen

Applicant(s)

SONG, SANG MOO

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/3/2006.
2. ☒ The allowed claim(s) is/are 1,3-9,11-15,20,21,26 and 27.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
- Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.



David Nelms
Supervisory Patent Examiner
Technology Center 2800

DETAILED ACTION

Allowable Subject Matter

Claims 1, 3-9, 11-15, 20, 21, 26 and 27 are allowed.

Reasons for Allowance

Claims 1, 3-9, 11-15, 20, 21, 26 and 27 are allowed since there is no prior art of record that teaches or suggests a liquid crystal display device comprising a relationship of various elements as claimed with the specific allowable subject matter cited in the following claims:

Claims 1 and 3-8:

- a plurality of liquid crystal cells defined by the gate and data lines, wherein each liquid crystal cell comprises a thin film transistor at a crossing of the gate and data lines, and a pixel electrode connected to the thin film transistor at a first side portion, wherein the liquid crystal cells include a first horizontal line of liquid crystal cells having thin film transistors connected to preceding ones of adjacent data lines, and a second horizontal line of liquid crystal cells having thin film transistors connected to successive ones of adjacent data lines
- a groove formed within a second side portion of the pixel electrode adjacent the plurality of data lines, wherein the second side portion is opposite the first side portion, so that the pixel electrode has a substantially diagonally symmetric shape

Claims 9, 11-15, 20, 21, 26 and 27:

- a plurality of liquid crystal cells arranged in a matrix pattern defined by the crossing of data lines and gate lines, wherein each of the plurality of liquid crystal cells includes a pixel electrode and a thin film transistor coupled between an adjacent gate line, an adjacent data line, and the pixel electrode, wherein the pixel electrode has a groove formed at a diagonally opposite portion to the thin film transistor, and wherein thin film transistors of consecutive ones of the plurality of liquid crystal cells arranged within a vertical line are alternately coupled to adjacent ones of the plurality of data lines

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chung et al (US 2002/0008792) discloses a liquid crystal display device comprising liquid crystal cells defined by gate lines and data lines, wherein each liquid crystal cell comprises a thin film transistor at a crossing of the gate and data lines, and a pixel electrode connected to the thin film transistor at a first side portion. Chung et al further discloses a groove formed within a second side portion of the pixel electrode, wherein the second side portion is opposite the first side portion. However, Chung et al lacks disclosure of the pixel electrode has a substantially diagonally symmetric shape.

Kimura et al (US 5,253,091) discloses the alternating of thin film transistor connection to preceding ones of adjacent data lines, and the thin film transistor connection to successive ones of adjacent data lines in every one horizontal line.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

(Nancy) Thanh-Nhan P Nguyen
Examiner
Art Unit 2871

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